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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,976	02/15/2002	Xiangxin Bi	2950.18US02	1411

7590 03/06/2003

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EXAMINER

LE, HOA T

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 03/06/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

10/076,976

Examiner

H. T. Le

Applicant(s)

BI ET AL

Art Unit

1773

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED**FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.**

Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check only a) or b)]


- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☒ In view of the early submission of the proposed reply (within two months as set forth in MPEP § 706.07 (f)), the period for reply expires on the mailing date of this Advisory Action, OR continues to run from the mailing date of the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will be entered upon the timely submission of a Notice of Appeal and Appeal Brief with requisite fees.
3. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search. (see NOTE below);
- (b) ☒ they raise the issue of new matter. (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See attachment (DETAILED ADVISORY ACTION).

4. ☒ Applicant's reply has overcome the following rejection(s): all rejections under USC 103.
5. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
6. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attachment.
7. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
8. ☒ For purposes of Appeal, the status of the claim(s) is as follows (see attached written explanation, if any):
- Claim(s) allowed: None.
- Claim(s) objected to: None.
- Claim(s) rejected: 18-30.
- Claim(s) withdrawn from consideration: _____.
9. ☐ The proposed drawing correction filed on _____ a) ☐ has b) ☐ has not been approved by the Examiner.
10. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
11. ☐ Other: _____


H. T. Le
Primary Examiner
Art Unit: 1773

DETAILED ADVISORY ACTION

Response to Amendment

1. New matter:

The amendment filed February 17, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the new upper limit of 150 nm (claim 18) in particle size of the claimed titania particles. Neither is there support for an upper limit of 125 nm (claim 19). Although there is support for 100 nm and 500 nm, there is no support for 150 nm or 125 nm as the upper limit.

Applicant is required to cancel the new matter in the reply to this Office Action.

2. New Issue:

The newly amended claims 18, 19 and 30 raise new issue. The new limitation of particle size of not more than 150 nm, requires new search and consideration and thus raises new issue. In addition, in claim 18, the term “no more than about 150 nm” is indefinite because while the phrase “no more than” precludes the value of 150 nm and any value above it, the term “about” includes the value of 150 nm and values

up to 10% above 150 nm. This is a question under 112, second paragraph and thus raises new issue.

Response to Arguments

3. Claims 18-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Wiederhoft et al (US 5,840,111) as set forth in previous office actions and further discussed below.

Applicants argued that the sol-gel process taught by Wiederhoft does not yield rutile titanium dioxide citing the reference "Surface and bulk characterization of titanium-oxo clusters and nanosized titania particles through O solid state NMR" by Scola et al ("Scola reference") as support. The sol-gel process in this reference is based on growth hydrolysis and condensations reactions of metallo-organic compounds in particular metal alkoxides. This process is stated in the Wiederhoft as undesirable because of known disadvantages (see Wiederhoft, col. 1, line 46 to col. 2, line 11). Therefore, the titanium dioxide particles produced by the process taught by Wiederhoft are not the same product produced by the process taught in the Scola reference cited by Applicants. Thus, anatase particles are not the only resulting particles as argued.

Not all sol-gel processes are created equal. In fact, there are two major differences between the sol-gel process taught by Scola and sol-gel process by Wiederhoft. First, Wiederhoft process is a *non*-hydrolytic sol/gel process as opposed

to the hydrolytic sol/gel process taught in the Sclan reference. Secondly, the main reactants in the Wiederhoft process involve NO organic compounds while the process taught by Sclan is based on an organic compound (i.e. a metal alkoxide).

In addition, the titanium dioxide particles in the Wiederhoft reference are produced by the sulphate process which is known to yield rutile titanium dioxide (see Wiederhoft, col. 2, lines 29-30 and col. 3, lines 32-36).

Therefore, contrary to applicants' argument, the titanium dioxide particles disclosed in the Wiederhoft reference comprise rutile titanium dioxide.

4. Claims 18-21 and 23-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Montino et al (US 4,803,064) or Colombo et al (US 3,661,522) as set forth in the last office action and further discussed below.

Applicants' arguments with regard to the rejections based on these two references are relied solely on the newly added limitation "particle size of up to 150 nm/125 nm". Such arguments are moot because the amendment has not been entered and will not be entered because it raises new matter and new issue as discussed under the section "Response to Amendment" above.


5. To simplify the issues, all rejections of obviousness under 35 U.S.C. 103 are hereby withdrawn.

6. Applicant's arguments filed February 17, 2003 have been fully considered but they are not persuasive for the reasons set forth above.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 703-308-2415. The examiner can normally be reached on 10:00 a.m. to 7:30 p.m., Mondays to Friday.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9610 for regular and After Final communications.



H. T. Le
Primary Examiner
Art Unit 1773

hl
March 3, 2003